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Oxygraphis delavayi Franchet (Ranunculaceae): a new generic record for Arunachal Pradesh and a new species record for India

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A.A. Bunge (1835) described a new genus *Oxygraphis* and separated it from *Ranunculus* and *Ficaria*. Later on this new genus was accepted by Hooker & Thompson (1872) where they enumerated two species in the Flora of British India. In China this genus is represented by four species (Wang et al. 2001) and five species in temperate Asia (Sharma et al. 1993). The genus has a wide distribution range in India, China, Bhutan, Nepal, Kazakhstan, Mongolia, Pakistan and Russia. In India this genus is represented by only one species (Sharma et al. 1993), but Ishwari & Rawat (2015) had published a new species under this genus *O. kumaonensis*, and the genus is now represented by six species from temperate Asia.

During the course of herbarium consultations for the exploration under the project "Flora (Angiosperms) of East Kameng District" (2015–2019) of the Botanical Survey of India, the author came across an old collection kept as unidentified in the Herbarium (ARUN). After a critical study the plant was identified as *Oxygraphis delavayi* Franch. And, it turned out to be a new generic record for the state and a new species record for India (Sharma et al. 1993; Chowdhery et al. 1996; Grierson & Long 2001; Das & Mao 2011; Bhaumik & Satyanarayana 2014a,b). This genus has never been reported from Arunachal Pradesh, India hence with this communication the genus is reported as new to the state of Arunachal Pradesh and the species as a new record for India.

Franchet (1886) in his enumeration of '*Plantae yunnanenses*', had described a new species *Oxygraphis delavayi* based on Delavay's Collection no. 247 and it was close to *Oxygraphis endlicheri* (Syn. *O. polypetala*). *O. delavayi*'s scape is puberulent apically, sepals papery and caducous and *O. endlicheri* has glabrous scape with leathery sepals or persistent. This species was considered to be endemic to China (Wang et al. 2001).

Oxygraphis delavayi Franchet, Bull. Soc. Bot. France. 33: 374. 1886. (Fig. 1 & Image 1)

Oxygraphis delavayi var. *nyingchiensis* W.L. Zheng.

Type: China: Yunnan, Tsang-chan, 20-06-1884, M. L'abbe Delavay 247 (P!) (Accession number P02523823).

Perennial scapose herbs, up to 15cm tall. Roots fibrous plant found in alpine meadows. Leaves radicals, 3–5, glabrous; petiole 3–5 cm sometime it grow upto 12cm, sheathing at base; leaf blade reniform to orbicular or ovate-orbicular, 0.7–4 × 0.6–4 cm, base cordate or subcordate, margin crenate, indistinctly 6–10 lobed rarely 3-lobed, apex rounded. Scapes 1-3, more than 5cm, elongating to 15cm in fruit, glabrous, except for appressed puberulent apical part. Flowers solitary or 2–3, yellow; bracts linear or ovate. Sepals 5, ovate-oblong or sublinear, 4–8 mm, papery, glabrous,

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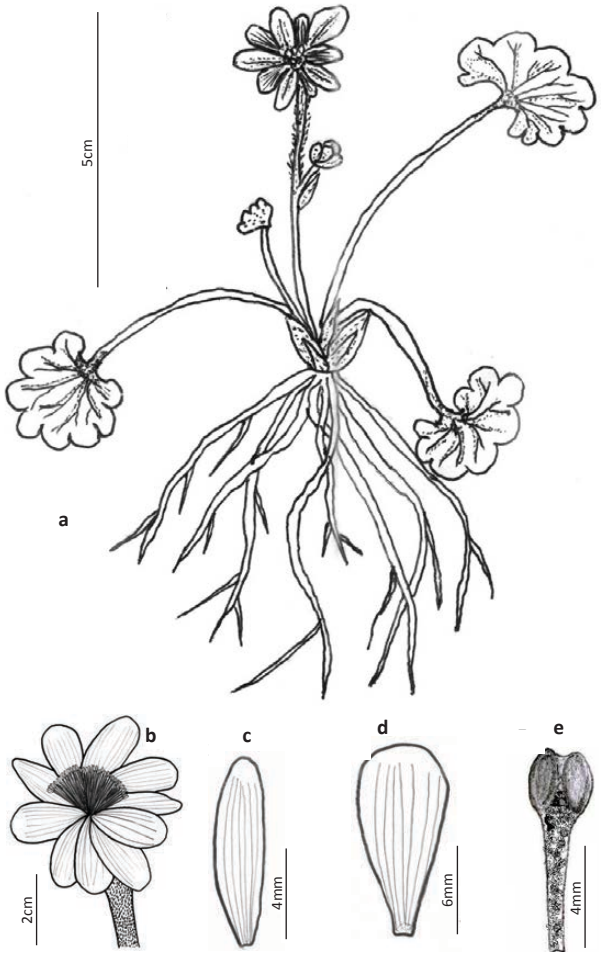

Figure 1. *Oxygraphis delavayi*
a - plant habit; b - flower; c - Sepal; d - Petal; e - Stamen.

Image 1. Herbarium 10350 (ARUN!) of *Oxygraphis delavay*

deciduous. Petals 5-10, long elliptic or oblong, 4.5–10 × 1.8–4 mm, distinctly clawed, apex rounded to broadly flat, yellow to brown with thin layer. Anthers oblong; 0.6–0.9 mm. Aggregate fruit broadly ovoid, ca. 5mm in diam.; achenes narrowly obliquely ovate, glabrous. Persistent style 0.5–0.8 mm.

Specimens examined: 10350 (ARUN!), 12.ix.2001, Sela Pass, Tawang District, Arunachal Pradesh, India, 4108m, 27031'3.7"N & 9205'49.8"E, coll. Bipin Balodi.

Phenology: May-Sept.

Distribution and habitat: India (Sela Pass, Tawang District); China (northwestern Sichuan, southeastern Xizang (Bomi Xian), northwestern Yunnan). Grows in moist alpine meadows, grassy slopes, and gravelly places at an elevation of 3500–5000 m.

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Key to the species of genus *Oxygraphis* found in Asia (Sharma et al. 1993; Wang et al. 2001; Rai & Rawat 2015).

1a. Leaves trifoliate ..... *O. shaftoanus*
1b. Leaves simple, ovate to elliptic, reniform or orbicular..... 2

2a. Scapes glabrous; flowers ebracteate, sepals persistent..... 3
2b. Scapes puberulent apically; flowers bracteate, sepals deciduous..... *O. delavayi*

3a. Leaf blade ovate-elliptic or linear-lanceolate base broadly cuneate or attenuate..... 4
3b. Leaf blade reniform, orbicular or round in outline, base cordate to sub-cordate..... 5

4a. Leaf blade linear, linear-lanceolate, petals up to 11..... *O. teniufolia*
4b. Leaf blade ovate-elliptic, petals up to 19..... *O. glacialis*

5a. Leaf margins crenate; petals linear to spathulate, apex acute.....*O. polypetala*
5b. Leaf margin lobed; petals ovate-oblong to obovate, apex round..... *O. kumaonensis*